

United States of America  
Department of Transportation -- Federal Aviation Administration

# Supplemental Type Certificate

*Number* SH7979SW

*This certificate issued to*

Dart Aerospace USA, Inc.,  
Limited Partnership  
2617 Aviation Parkway  
Grand Prairie, TX 75052

*certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 29 of the Federal Aviation Regulations.*

*Original Product -- Type Certificate Number:* H4SW  
*Make:* Bell  
*Model:* 412/412EP

*Description of Type Design Change:*

Installation of a nose mounted FLIR 2000 A/B Imager, in accordance with Premier Drawing B32-13002, Revision D, dated 3/7/95, or later FAA approved revision.

*Limitations and Conditions:*

Compatibility of this modification with previously installed equipment must be determined by installer. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

*This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

*Date of application:* November 08, 1990

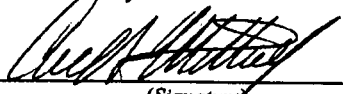
*Date reissued:* 4/23/91; 1/17/02

*Date of issuance:* April 01, 1991

*Date amended:* November 16, 1995



*By direction of the Administrator*

  
(Signature)  
Carl F. Mittag, Manager  
Rotorcraft Certification Office,  
Southwest Region

(Title)

NHA	USED ON	MOD	LTR	DESCRIPTION	DATE	APPROVED
STC SH7979SW	412		-	MFG RELEASE	11/10/90	<i>(Signature)</i>
			A	ADDED MATL ALTERNATE (SH 10)	11/20/90	<i>(Signature)</i>
			B	ADD PGS 2A, 9A, 9B/ECO 3839	10/25/93	<i>(Signature)</i>
			C	REVISED PER ECO NO. 3873	12/13/93	MRC
			D	REVISED PER ECO NO. 4045	3/7/94	MRC

## NOTES : UNLESS OTHERWISE SPECIFIED

1. REMOVE ALL BURRS, BREAK ALL EDGES / CORNERS .015-.031 EXCEPT AS NOTED.
2. LENGTH OF AN, MS, NAS & CR RIVETS SHORTER THAN 1.00 ARE NOT SPECIFIED.
3. CHEM-FILM (ALODINE) PER MIL-C-5541.
4. PRIME SHEET METAL PARTS WITH MIL-P-23377C EPOXY PRIMER OR MIL-TTP-1757 ZINC CHROMATE.
5. PAINT PER ACFT SPECIFICATION.
6. ENLARGE HOLE DIA. FROM .03125 TO .375 DIA.
7. IDENTIFY PARTS PER PREMIER IDENTIFICATION AND MARKING PROCEDURES 115-12112 (PARA. 2.1/2.2).
8. FIBERGLASS PER PREMIER SPEC. 008-93001.
9. TO AID IN THE INSTALLATION OF THE ISOLATORS, USE ONLY WATER AS A LUBRICANT (REF MFG HDBK).
10. TORQUE TO 30 FT-LBS.

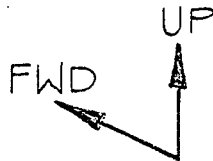
ECO  
4098  
4659  
6457

## PARTS & HARDWARE CALLOUTS ON FIELD OF DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES  TOLERANCES: FRACTIONS +1/32 DECIMALS .XX±.05 ANGLES f .XXX±.03	DRN	WL MILLER	11/6/90	PREMIER AVIATION, INC.							
	CHK			GRAND PRAIRIE, TEXAS							
	APP	<i>(Signature)</i>	11/10/90	FLIR INSTALLATION							
	CONTRACT:			SIZE	CODE IDENT NO.	DWG NO.					
	PREMIER APP			A	OSUV8	B32-13002					
	CUST. APP			SCALE	NONE	WT.		SHEET	1	OF	11

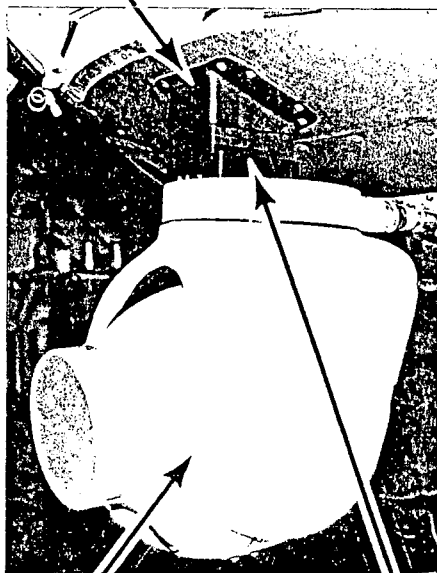
STC SH7979SW STC SH7744SW

STC'd PRINT



-31 SHROUD  
REF

NOTE :  
SEE DETAIL A  
FOR CONNECTOR  
LOCATION &  
MOUNTING  
(SEE SHEET 3)



FLIR IMAGER  
P/N 64869-U92001670

FLIR DOVETALE  
BRACKET  
P/N 15042800  
ATTACHED TO IMAGER  
WITH FLIR SUPPLIED  
HARDWARE

## FLIR IMAGER MOUNTING

FLIR INSTALLATION

SIZE  
**A**

CODE IDENT NO.  
**OSUV8**

DWG NO.  
**B32-13002**

SCALE NONE REV. —

SHEET 2 OF

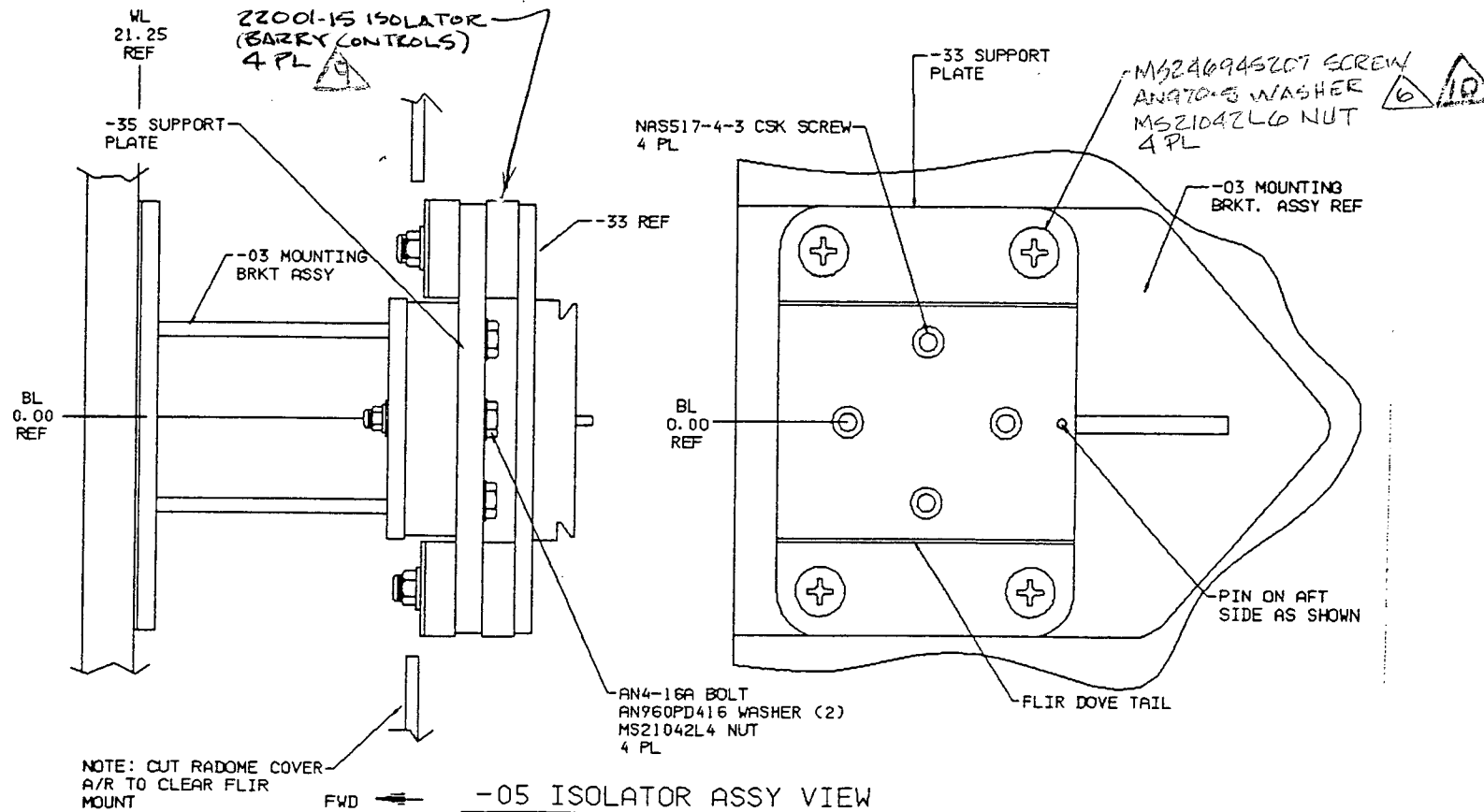
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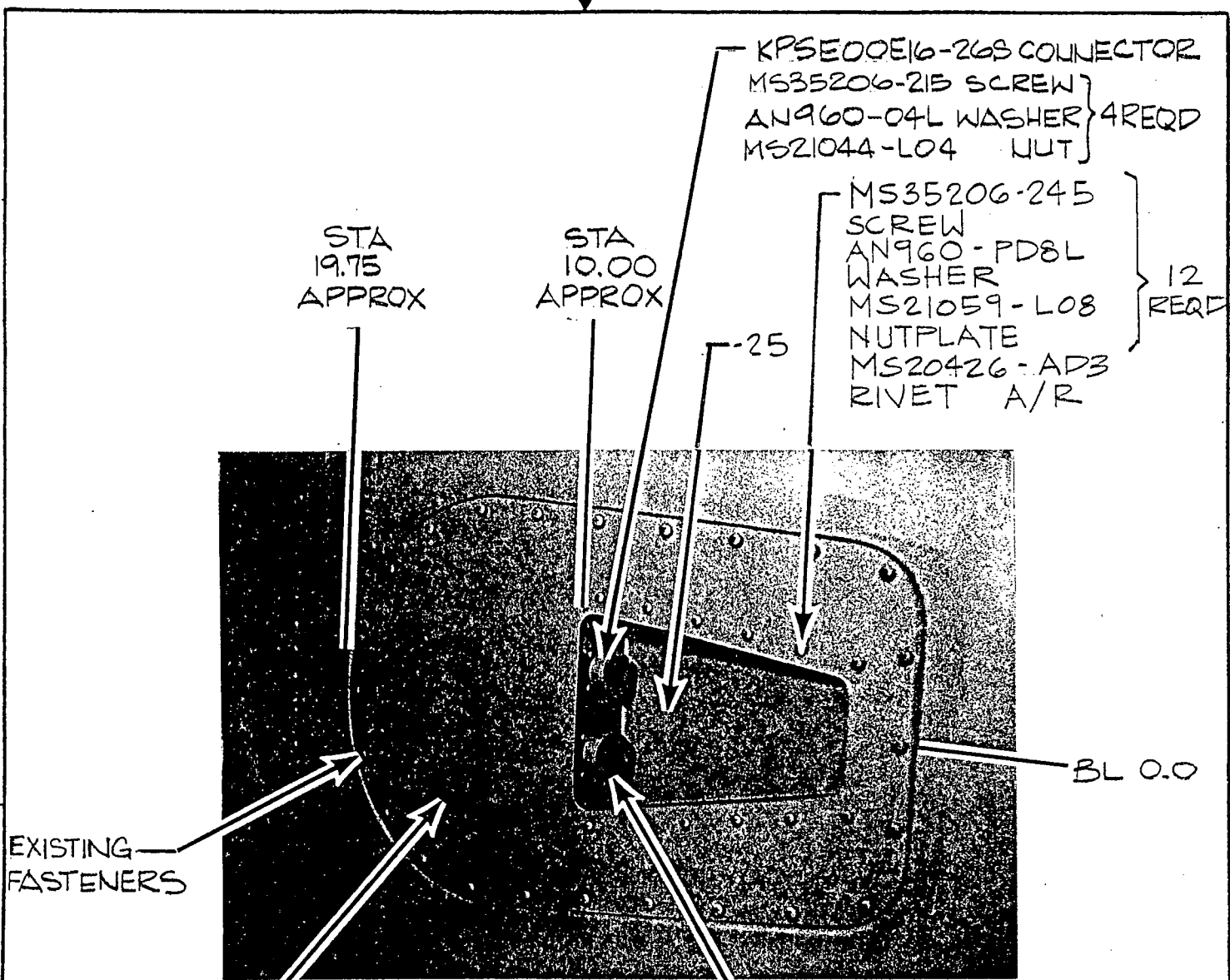
**ORIGINAL**

STC SH7979SW STC SH7744SW

# FLIR INSTALLATION

SIZE	CODE	IDENT NO.	DWG NO.
A	OSUV8		B32-13002
SCALE	N/A	REV.	SHEET
			2A OF 1





DETAIL A (SEE SHT 2)  
VIEW LOOKING UP UNDER SIDE OF ACFT

→ FWD

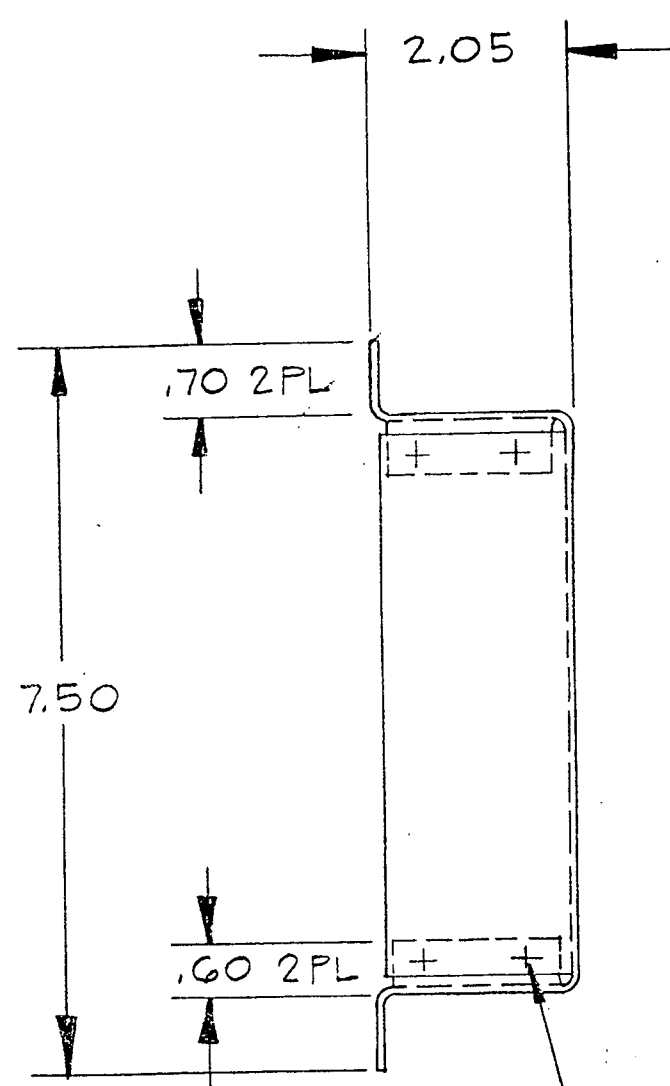
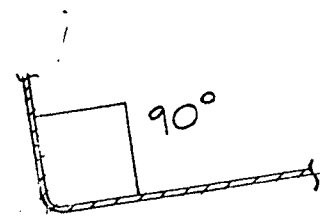
**ORIGINAL**

FLIR INSTALLATION

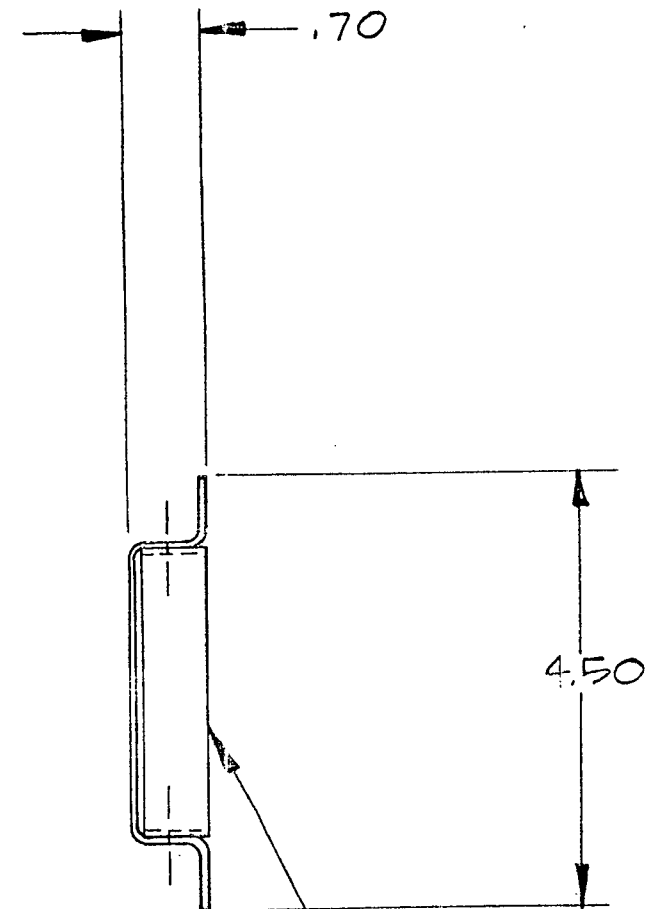
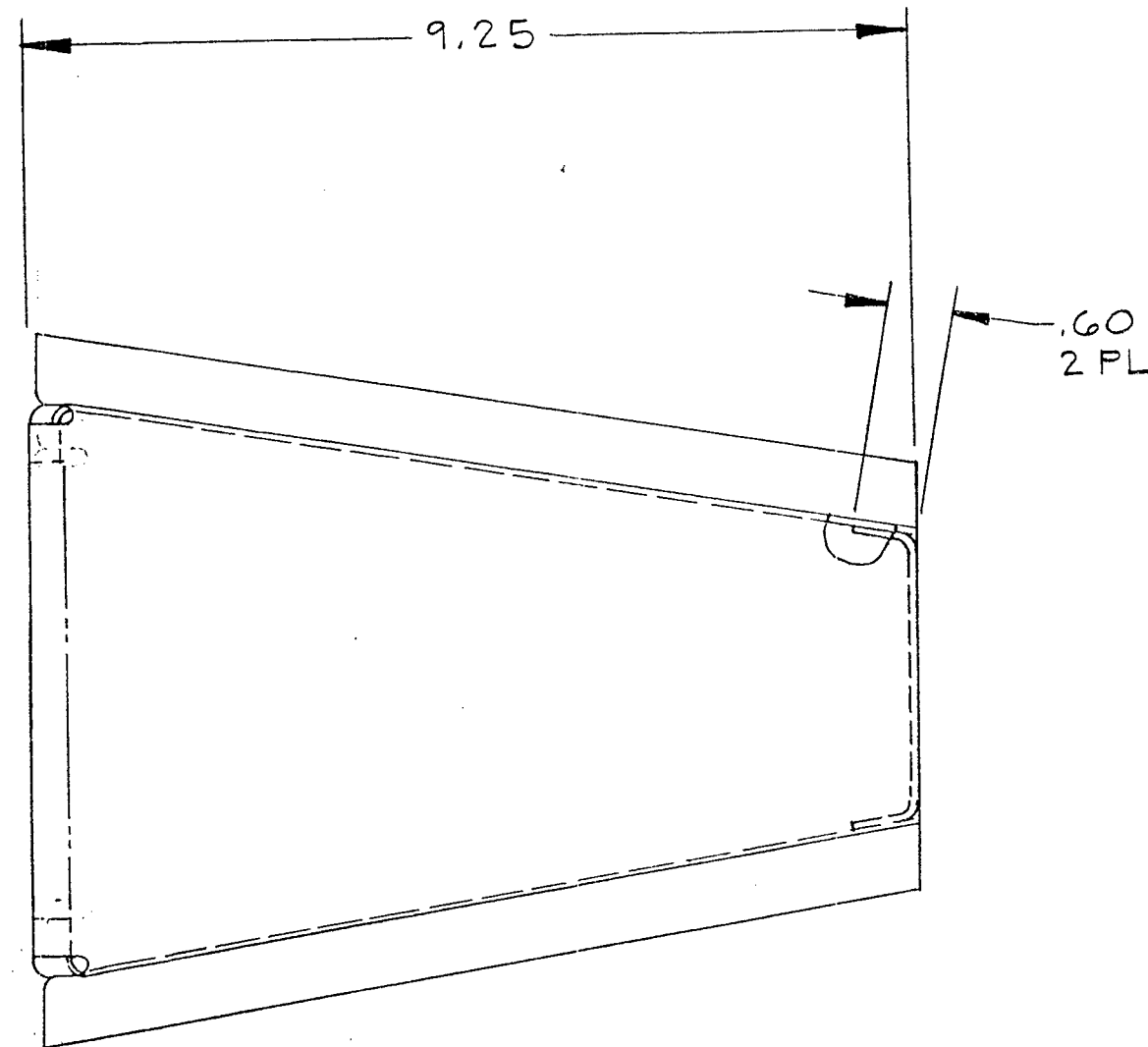
SIZE	CODE IDENT NO.	DWG NO.
A	OSUV8	B32-13002
SCALE	REV.	SHEET
NONE		3 OF

↑ STC'd PRINT

STC SH7979SW STC SH7744SW



MS20426-AD3  
RIVET A/R



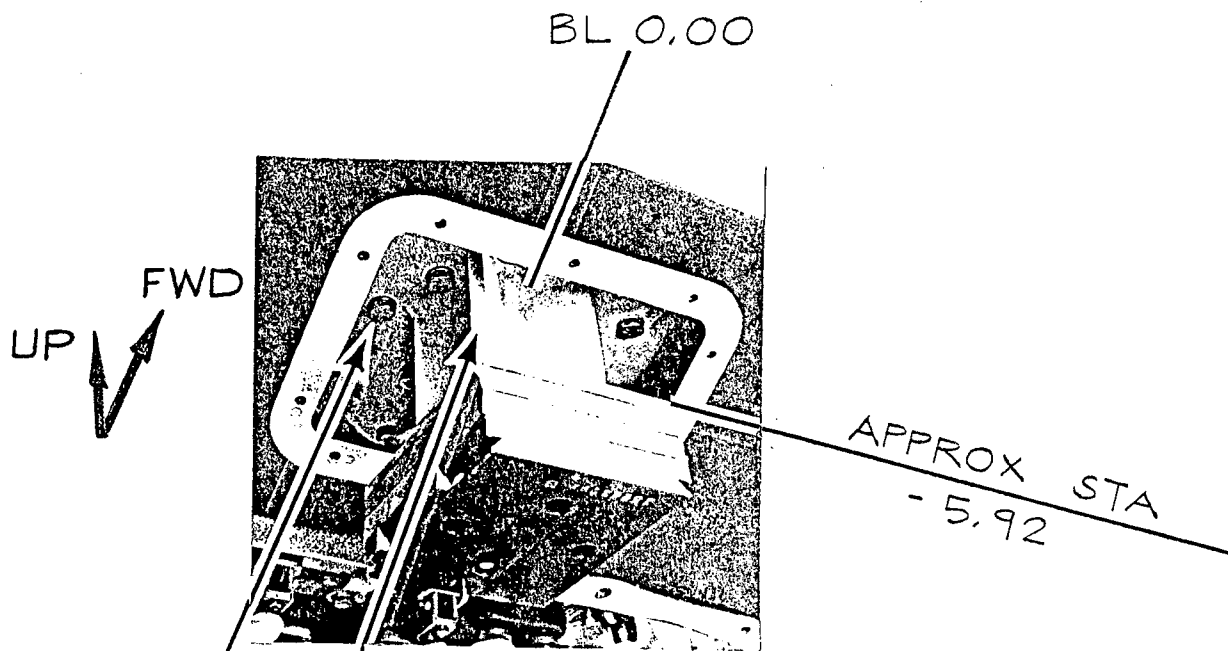
27 CLOSEOUT  
MATL: .032 THK 2024-T3  
QQ-A-250/5  
ATTACH WITH (2)  
MS20426-AD3 RIVET

- 25 BRACKET  
MATL : .040 THK 2024-T3  
QQ-A-250/5

SIZE	CODE IDENT NO	REV.
B	OSUV8	B32 - 13002
FLIR INSTALLATION		SHEET 4 of

STC'd PRINT ORIGINAL

STC SH7979SW STC SH7744SW



-03 MOUNTING BRACKET ASSY

AN4-6A BOLT

AN960-PD16 WASHER

BHT INSERT

P/N 80-007-12-4

15 REQD

-21 SHIM

(BETWEEN MOUNTING BRACKET  
& AIRCRAFT STRUCTURE)

AIRCRAFT STRUCTURE AT WL 22.00

MOUNTING BRACKET ATTACHMENT

VIEW LOOKING UP

FLIR INSTALLATION

SIZE

A

CODE IDENT NO.

OSUV8.

DWG NO.

B32-13002

SCALE

NONE

REV.

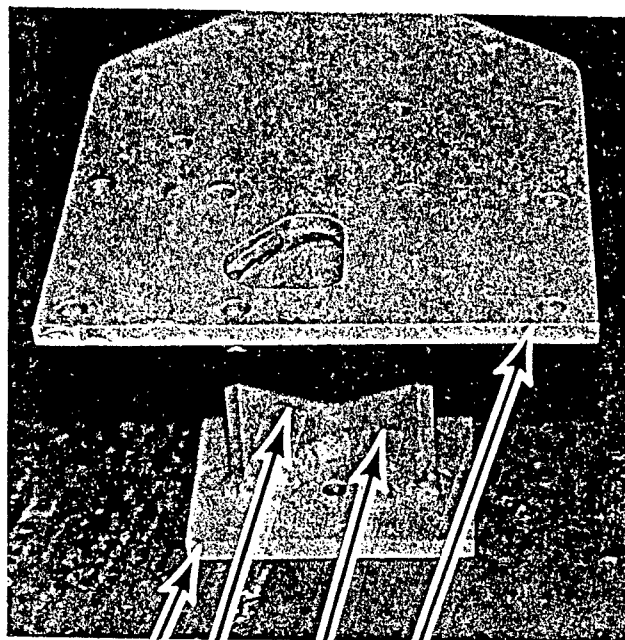
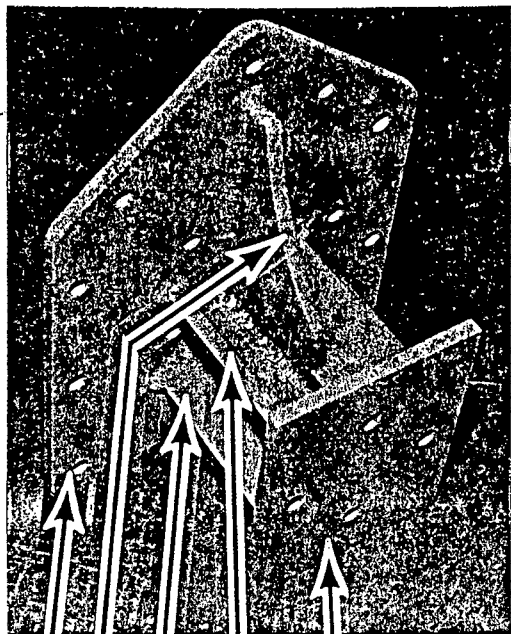
-

SHEET 5 OF

STC'd PRINT

ORIGINAL

STC SH7744SW  
STC SH7979CW



-13 PLATE

-17 PLATE

.25 THK  $\times$  3.20  $\times$  3.20

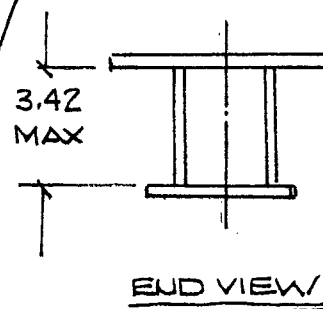
-19 PLATE

.25 THK  $\times$  1.48  $\times$  3.20

2 PL

-15 PLATE

-11 PLATE



# -03 MOUNTING BRACKET ASSY

MATL : .25 THK 6061-T511

QQ-A-250/11

WELD PER MIL-STD-2219 CLASS B

FLIR INSTALLATION

SIZE

A

CODE IDENT NO.

OSUV8

DWG NO.

B32-13002

SCALE

NONE

REV.

-

SHEET

6

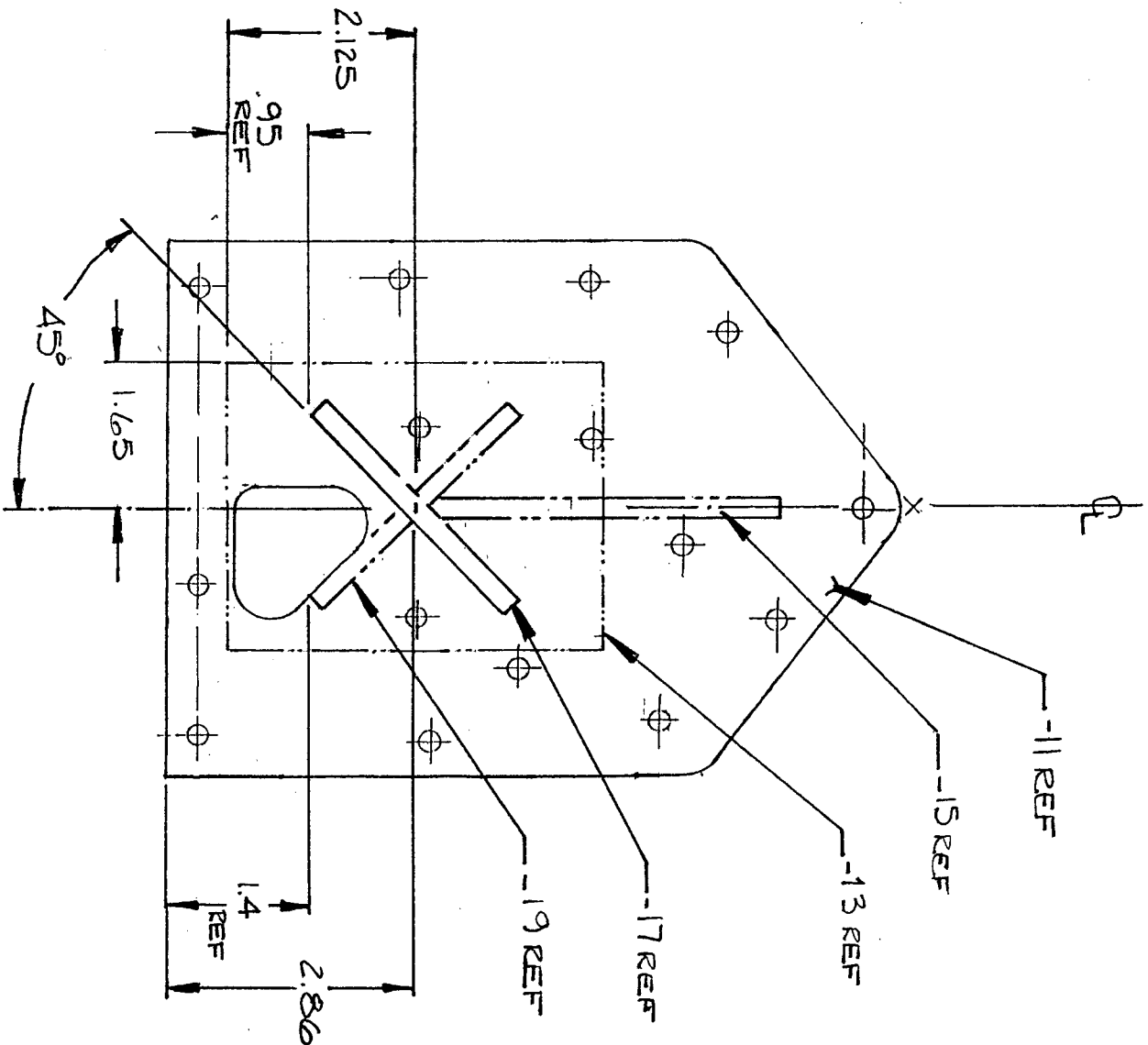
OF

STC'd PRINT

ORIGINAL

STC SH7979SW STC SH7744SW

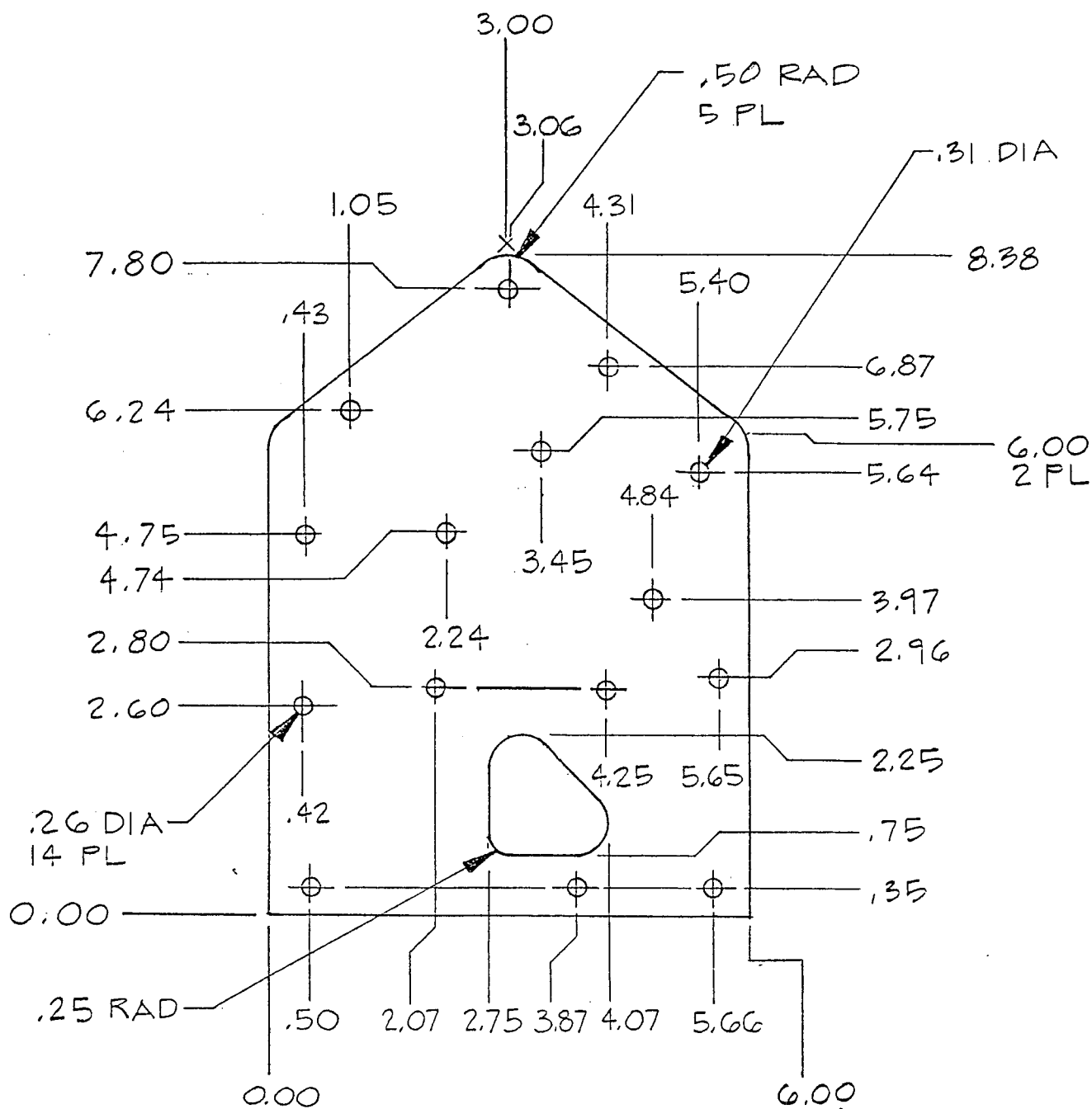




VIEW LOOKING DOWN  
(-03 ASSY)

FLIR INSTALLATION

SIZE	CODE IDENT NO.	DWG NO.
A	OSUV8	B32-13002
SCALE	REV.	SHEET 6 A OF
	-	



-|| PLATE

MATL: .25 THK 6061-T511  
QQ-A-250/11

FLIR INSTALLATION

SIZE

A

CODE IDENT NO.

OSUV8

DWG NO.

B32-13002

SCALE

1/2

REV.

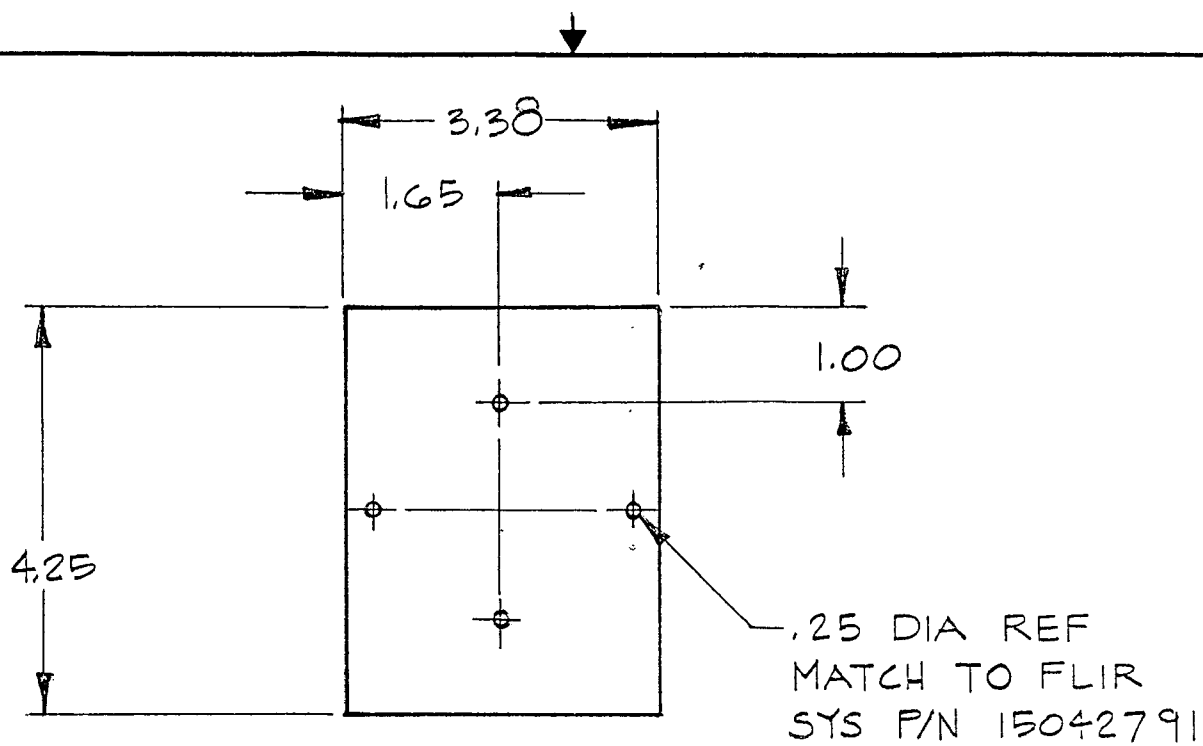
-

SHEET 7 OF

STC'd PRINT

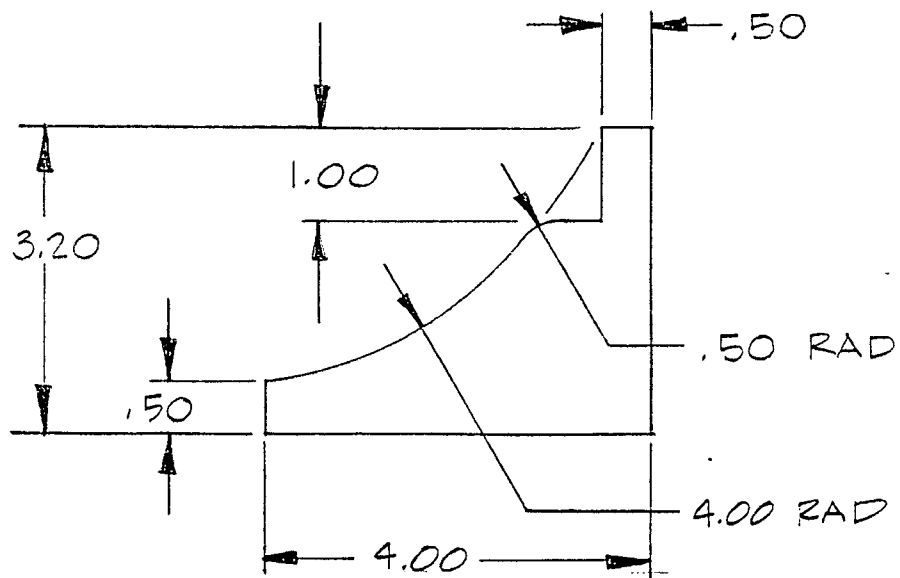
ORIGINAL

STC SH7979SW/ STC SH7744SW



### -13 PLATE

MATL : .25 THK 6061-T5||  
QA-A-250/11



### -15 PLATE

MATL : .25 THK 6061-T5||  
QA-A-250/11

FLIR INSTALLATION

SIZE  
A

CODE IDENT NO.  
OSUV8

DWG NO.  
B32-13002

SCALE 1/2

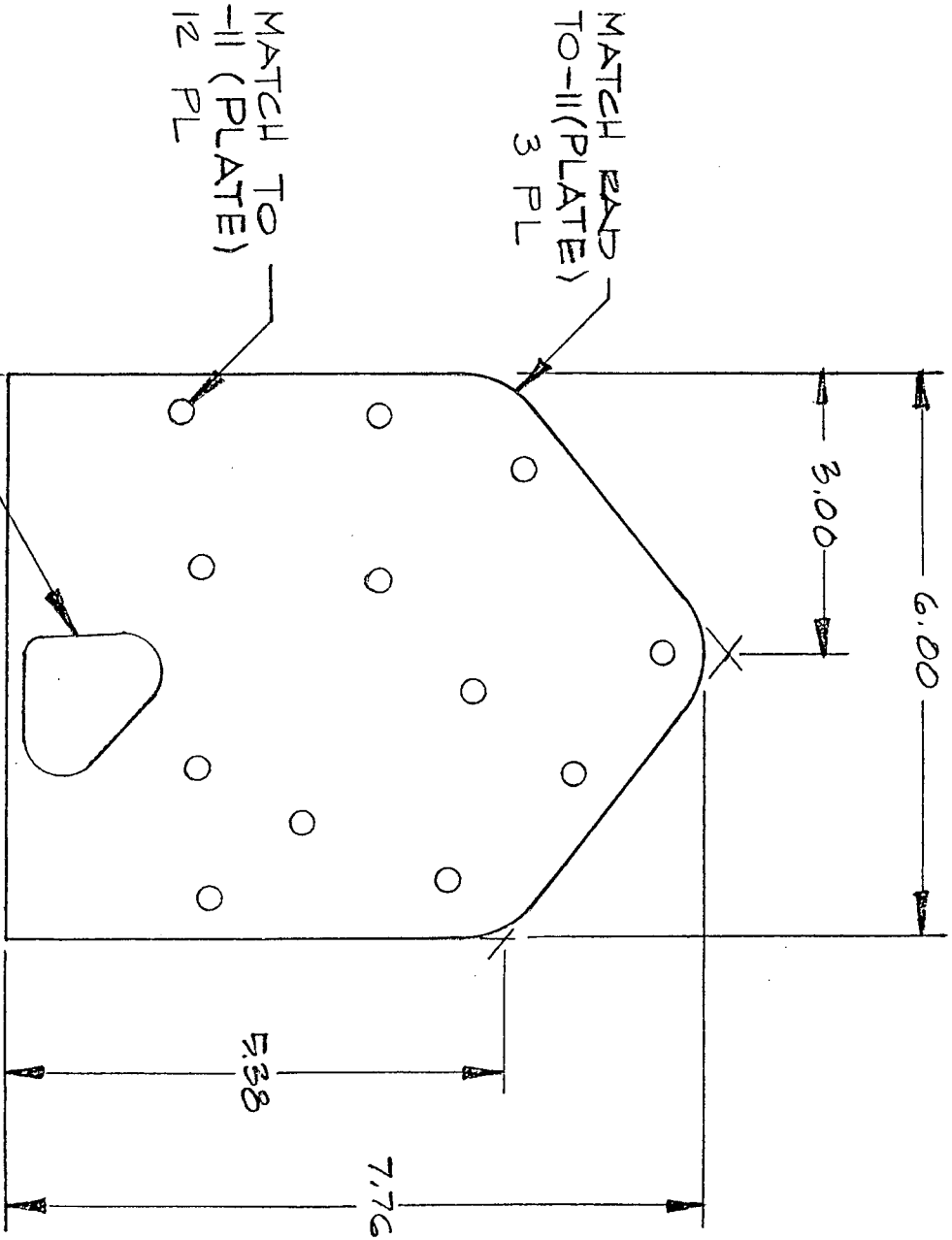
REV. -

SHEET 8 of

STC'd PRINT

ORIGINAL

STC SH7979SW STC SH7744SW



-21 SHIM

MATL: 1050 THK 2024-T3

QA-A-250/5

ALTERUATE :

FLIR INSTALLATION

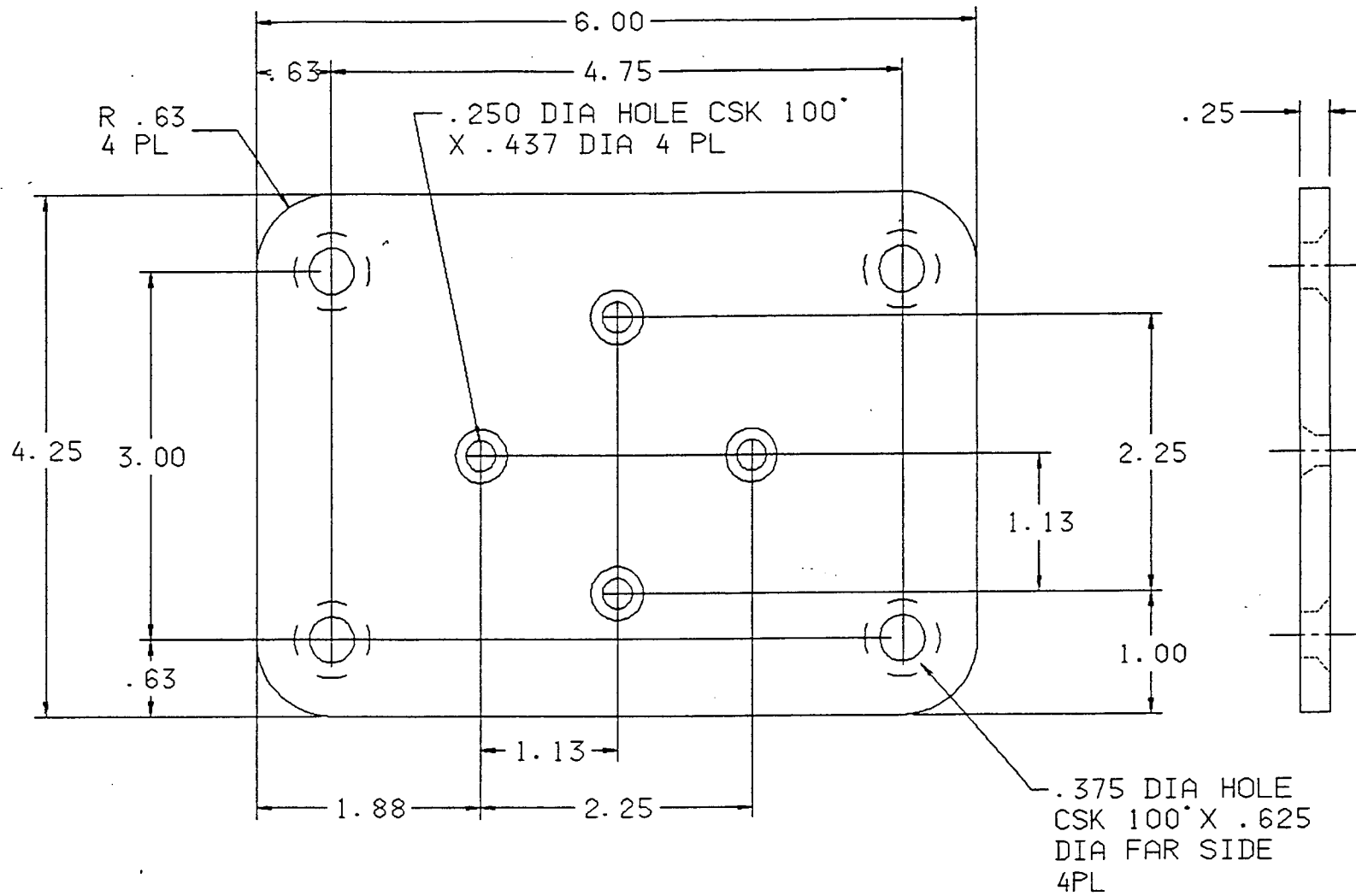
SIZE	CODE IDENT NO.	DWG NO.
A	OSUV8	B32-13002

SCALE	1/2	REV.	-	SHEET	9	OF
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STC'd PRINT ORIGINAL

FLIR INSTALLATION

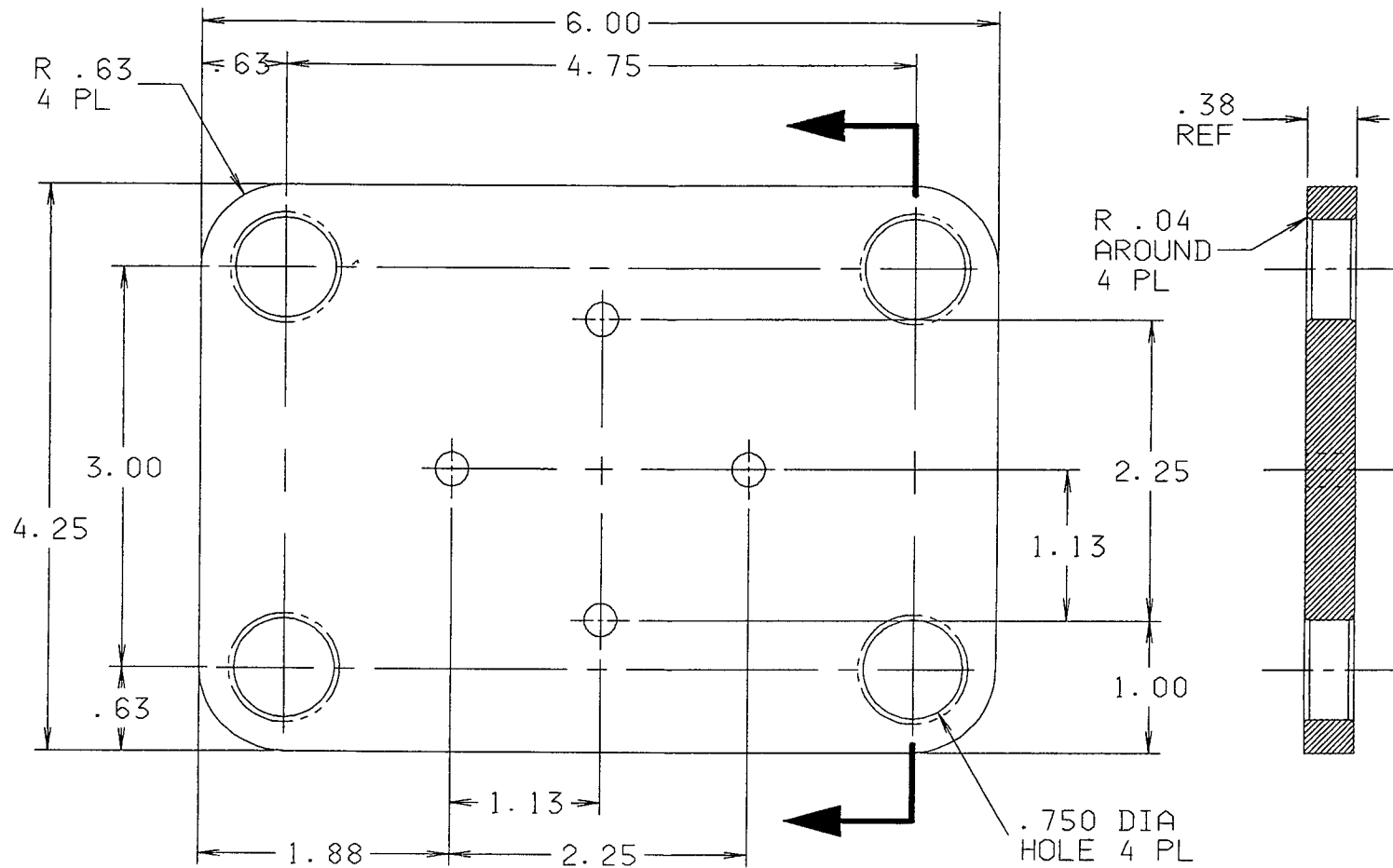
SIZE	CODE IDENT NO.	DWG NO.
A	OSUV8	B32-13002
SCALE N/A	REV. B	SHEET 9A OF 11



**-33 SUPPORT PLATE**  
 (ALT. MAT'L: 7075-T6 OR 6061-T6)  
 MAT'L: .25 THK, 2024-T351, QQ-A-250/4

# FLIR INSTALLATION

SIZE	CODE IDENT NO.	DWG NO.
A	OSUV8	B32-13002
SCALE	N/A	REV.
D		
SHEET	98	OF 11

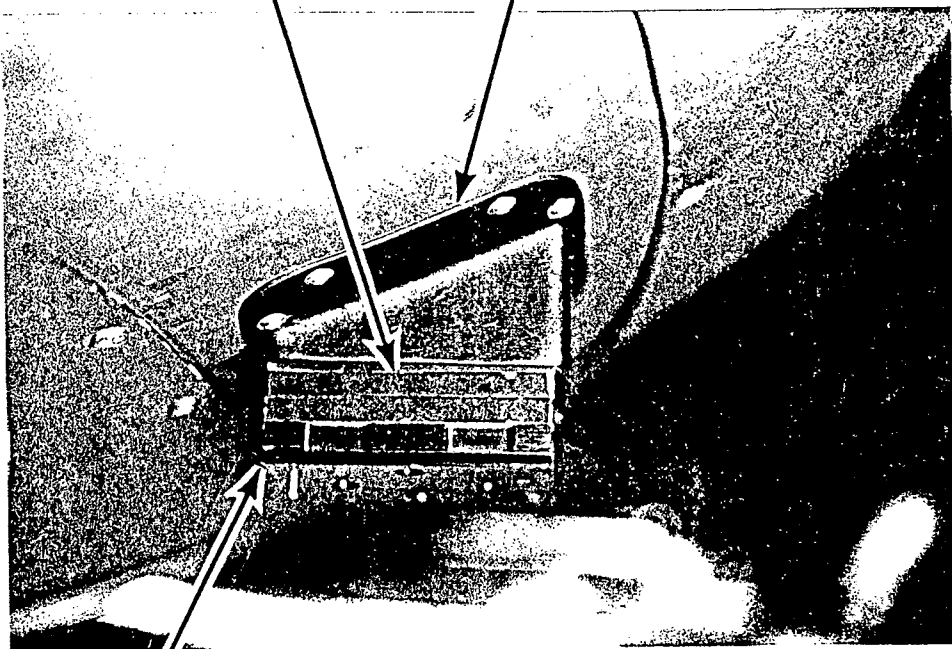


## -35 SUPPORT PLATE

MATL: .375 THK 2024-T351 QQ-A-250/4  
(ALT. MATL: 7075-T6, OR 6061-T6)

-23 SHIM  
 .38 THK, 2024-T3  
 QQ-A-250/5  
 SAME AS -13  
 PLATE. 2 REQD  
 ALTERNATE:  
 .75 THK 6061-T6  
 QQ-A-250/11 SAME  
 AS -13 PLATE.

-31 SHROUD  
 AN525 - 8R8  
 SCREWS 8 REQD  
 PICK-UP EXISTING  
 NUTPLATES



FLIR DOVETAILE BLOCK  
 P/N 15042791  
 AN4-15A BOLT  
 AN960-PD416L WASHER } 4 REQD

UP  
 FWD

FLIR INSTALLATION

SIZE  
 A

CODE IDENT NO.  
 OSUV8

DWG NO.

B32-13002

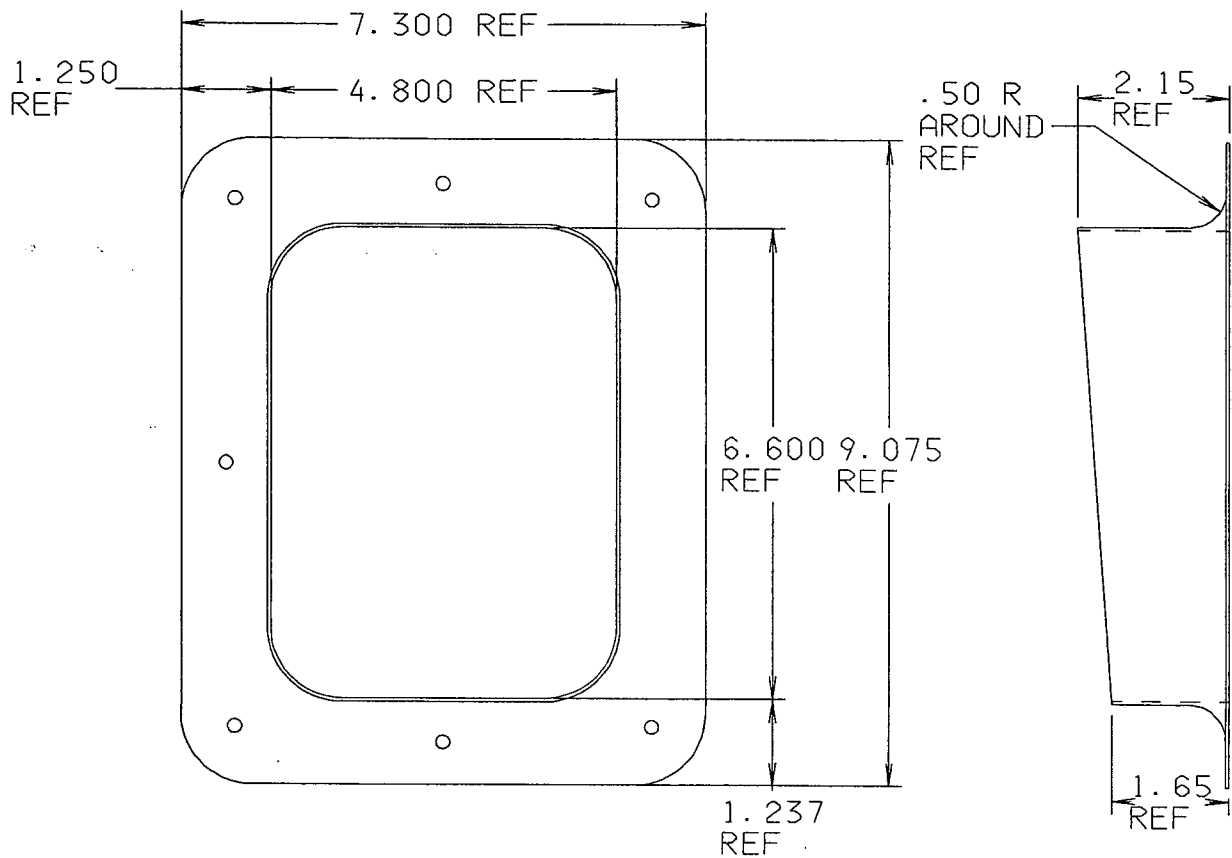
SCALE NONE

REV. A

SHEET 10 OF

STC'd PRINT

ORIGINAL



-31 SHROUD



MATL: 1 PLY FR8600-120  
 4 PLY FR8600-7781  
 MFG PER B32-13002-31T TOOL  
 ALL DIM APPROX  
 LAYUP PER TOOL  
 TRIM TO FIT AT INSTALL

FLIR  
 INSTALLATION

SIZE A	CODE IDENT NO. OSUV8	DWG NO. B32-13002
SCALE NONE	REV. D	SHEET 11 OF 11

STC'd PRINT

STC SH7979SW STC SH7744SW



<input checked="" type="checkbox"/> ECO <input type="checkbox"/> ECR	NO. <b>4098</b>	EFF DATE OF CHG <b>3-21-94</b>	REQUESTED BY <b>L.C.</b>	<b>PREMIER</b>	PAGE <b>1</b> OF <b>1</b>
REASON FOR CHANGE <b>PRODUCT IMPROVEMENT</b>		DOCUMENTS AFFECTED <b>B32-13002</b>	SYSTEM	MATL DISPOSITION	
MARKED PRINTS ATTACHED YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		<b>FLIR</b>	SERIAL NO EFF	REWORK	STORE <input type="checkbox"/> IN MFG. <input type="checkbox"/>
		<b>INSTALLATION</b>		SCRAP	
				USE AS IS	

DISPOSITION / COMMENTS

STC SH7979SW

REV IS "D"

THIS IS AN UNINCORPORATED ECO

DESCRIPTION INCORP ECR 598

SH 10

ADD TO -23 SHIM

ALTERNATE:

.75 THK 7075-T6, QQ-A-225/9 SAME AS -13 PLATE

IMPACT		YES		NO		PROCUREMENT ACTION		PRIORITY		CHANGE CLASSIFICATION			
										RECORD			
INTERCHANGEABILITY		<input type="checkbox"/>		<input checked="" type="checkbox"/>		YES		NO		<input type="checkbox"/>		<input type="checkbox"/>	
DRAWING CHANGE		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
SPECIFICATION		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
SPARES		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
PREPARED BY	DATE	PROJECT ENG	DATE	QA	DATE	FAA SUBMITTAL							
DLK	3/21/94			D.L. Bube	3/25/94	YES							
CHECKED BY	DATE	MFG	DATE	PROD SPRT	DATE	ENGRG APPR	DATE						
	3/21/94						3/25/94						

FORM 003-11300-005

ECO ☒ 4098ECR ☐

<input checked="" type="checkbox"/> ECO <input type="checkbox"/> ECR	NO <b>4659</b>	EFF DATE OF CHG <b>07 DEC. 95</b>	REQUESTED BY ECR's 865,904	<b>PREMIER</b>	PAGE <b>1</b> OF <b>1</b>
<b>REASON FOR CHANGE</b>		DOCUMENTS AFFECTED	SYSTEM MULTIPLE	MATL DISPOSITION	
PRODUCT IMPROVEMENT		134-13000 B32-13002		REWORK	STORE <input type="checkbox"/> IN MFG. <input type="checkbox"/>
MARKED PRINTS ATTACHED YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>			SERIAL NO EFF	SCRAP	
				USE AS IS	

DISPOSITION/COMMENTS THIS ECO IS UNINCORPORATED.

134-13000 IS REV "- " STC SH8612SW  
B32-13002 IS REV "D" STC SH7979SW, SH7744SW

## DESCRIPTION

134-13000 - REFERENCE ECR 865.

SHEET 3 ZONE 1D - WAS NO 3 (.213)DIA HOLE (PER ECO 4421)





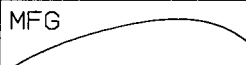



IS 17/64 (.265)DIA HOLE

CHANGE ALL REFERENCES TO AH503-6-6 SCREW TO AH503-6-8 SCREW IN P/L AND F/D.

B32-13002 - REFERENCE ECR 904.

SHEET 8 - CHANGE MATL. OF -13 PLATE FROM .25 THK. TO 1.00 THK.

CHANGE HORIZONTAL DIMENSION 1.65 TO 1.69.

IMPACT INTERCHANGEABILITY <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO DRAWING CHANGE <input type="checkbox"/> SPECIFICATION <input type="checkbox"/> SPARES <input type="checkbox"/>		PROCUREMENT ACTION YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		PRIORITY 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/>	CHANGE CLASSIFICATION <input checked="" type="checkbox"/> RECORD <input type="checkbox"/> PMA MAJOR <input type="checkbox"/> TSO MAJOR <input type="checkbox"/> PMA MINOR <input type="checkbox"/> TSO MINOR	
PREPARED BY P. VANOVER	DATE 12/6/95	PROJECT ENG 	DATE 	QA 	DATE 12/7/95	FAA SUBMITTAL YES
CHECKED BY 	DATE 06 DEC 95	MFG 	DATE 	PROD SPRT 	DATE 	ENGRG APPR W. Hamaker
						DATE 12/7/95

ECO ☒ **4659**

ECR ☐

ENGINEERING CHANGE ORDER PREMIER AVIATION, INC 2621 AVIATION PARKWAY, GRAND PRAIRIE, TX 75052 FSCM-OSUV8		REQUESTED BY ECR 1227	DATE OF CHANGE 8/31/99	ECO NO. 6457 6457	SHEET OF 1 1
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FAA SUBMITTAL YES <input type="checkbox"/> X <input checked="" type="checkbox"/> NO <input type="checkbox"/>		STC(s) AFFECTED: SH7979SW, SH7744SW		APPROVALS	
REASON FOR CHANGE		DOCUMENT AFFECTED		PREPARED BY E. CELESTINO	
FACILITATE FAB.		DESIGN ERROR		DATE 08/27/99	
CUSTOMER CHANGE		DRAFTING ERROR		CHECKED 8/31/99	
DESIGN CHANGE		ADDITION DESIGN INFO		QUALITY 8/31/99	
OTHER		TITLE FLIR INSTALLATION		MANAGE 8/31/99	
TYPE		CLASSIFICATION		ENGINEERING 8/31/99	
INCORPORATED		RECORD		PMA MINOR	
UNINCORPORATED		X		X	
		STC		X	
		PMA MAJOR		TSO MINOR	
				TSO MAJOR	

DESCRIPTION: (NOTE TO INCORPORATOR: USE NEXT AVAILABLE NOTE NUMBER)

### SHEET 1 NOTES

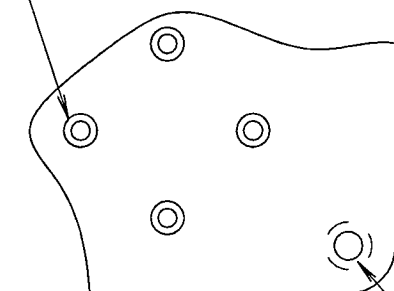
- ADD X. GENERAL SHOP PRACTICES PER AC43.13-1/-2.
- WAS 1. REMOVE ALL BURRS, BREAK ALL EDGES / CORNERS .015-.031 EXCEPT AS NOTED.
- IS 1. FOR SHEET METAL PARTS, REMOVE ALL BURRS AND BREAK ALL EDGES/CORNERS .01-.03, EXCEPT AS NOTED.
- WAS 3. CHEM-FILM (ALODINE) PER MIL-C-5541.
- IS 3. UNLESS OTHERWISE SPECIFIED, CHEM FILM (ALODINE) ALUMINUM DETAIL PARTS PER PREMIER SPECIFICATION 008-93003.

- WAS 4. PRIME SHEET METAL PARTS WITH MIL-P-23377C EPOXY PRIMER OR MIL-TTP-1757 ZINC CHROMATE.
- IS 4. UNLESS OTHERWISE SPECIFIED, PRIME ALUMINUM DETAIL PARTS PER PREMIER SPECIFICATION 008-93005.
- WAS 7. IDENTIFY PARTS PER PREMIER IDENTIFICATION AND MARKING PROCEDURES 115-12112 (PARA. 2.1/2.2).
- IS 7. REMOVED.

### SHEET 9A

WAS

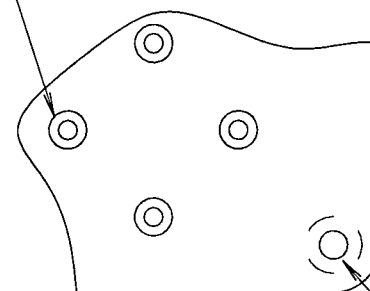
.250 DIA HOLE CSK 100°  
X .437 DIA 4 PL



.375 DIA HOLE  
CSK 100° X .625  
DIA FAR SIDE  
4PL

IS

.250 DIA HOLE CSK 100°  
X .500 DIA 4 PL



.375 DIA HOLE  
CSK 100° X .750  
DIA FAR SIDE  
4PL